

THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

1. (Previously Presented) An optical shutter drive device comprising:

B₁ an optical shutter module arraying a plurality of optical shutter elements having an electro-optic effect; and

a driver for modulating the ON time of each optical shutter element based on the image data;

wherein said driver can modulate each optical shutter element at a gradient corresponding to a predetermined number of bits, so as to drive said each optical shutter element at a gradient exceeding a maximum gradient at said predetermined number of bits without turning OFF the optical shutter element when driving one line.

2. (Original) An optical shutter drive device according to claim 1, wherein said driver turns ON each optical shutter element with a dispersed timing.

3. (Original) An optical shutter drive device according to claim 1, wherein the predetermined number of bits is fewer than the number of bits of the image data.

4. (Previously Presented) A solid state scanning type optical recording device comprising:

optical shutter elements having an electro-optic effect; and

a driver for dividing one line into a plurality of sections in the subscan direction and modulating the ON time of said optical shutter elements based on the image data of each section by a predetermined number of bits fewer than the number of bits of the image data, and driving said optical shutter elements at a gradient exceeding a maximum gradient corresponding to the predetermined number of bits;

wherein the driver includes a shift register for forwarding image data synchronously with a shift clock;

a latch register for latching image data of one section within said shift register in response to a strobe signal;

a counter for counting standard clock signals; and


a comparator for turning ON each optical shutter element, comparing the value latched in the latch register with the count value of the counter, and turning OFF each optical shutter element when both values match.

5. (Original) A solid state scanning type optical recording device according to claim 4, wherein said driver is constructed not to transmit said comparator the standard clock signal corresponding to the maximum count value of the fixed number of bits.

6. (Original) A solid state scanning type optical recording device according to claim 4, wherein the timing is shifter for generating the strobe signal and resetting said counter.

7. (Original) A solid state scanning type optical recording device according to claim 4, wherein said driver turns ON each optical shutter element with a dispersed timing.

8. (Original) A solid state scanning type optical recording device according to claim 4, wherein said driver is constructed so as to avoid turning OFF a plurality of optical shutter elements with identical timing to transmit image data to said shift register.

 9. (Previously Presented) A solid state scanning type optical recording device according to claim 4, wherein said driver is constructed so as to avoid a timing for turning ON said optical shutter elements with identical timing to transmit image data to said shift register.


10. (Previously Presented) A solid state scanning type optical recording device according to claim 9, wherein said driver transmits image data corresponding to] first and second section to said shift register, thereafter drives said optical shutter elements based on the image data corresponding to the first section, and thereafter transmits image data corresponding to a third section to said shift register.

11. (Previously Presented) An electro-optic element drive device comprising:
electro-optical elements having an electro-optic effect; and
a driver for modulating the ON time of the electro-optic elements based on the image data by a predetermined number of bits, and driving each of said electro-optic elements at a

gradient exceeding a maximum gradient corresponding to the predetermined number of bits without turning OFF the electro-optic elements when driving one line.

12. (Original) An electro-optic element drive device according to claim 11, wherein the predetermined number of bits is fewer than the number of bits of the image data.

13. (Previously Presented) An electro-optic element drive device according to claim 11, wherein said electro-optic elements are an optical shutter.

 14. (Previously Presented) An electro-optic element drive device according to claim 11, wherein said driver turns ON said each of said electro-optic elements with a dispersed timing.

15. (Previously Presented) An electro-optic element drive device according to claim 11, further comprising a counter for counting standard clock signals, wherein said driver turns ON said each of said electro-optic elements when a count value of the counter reaches to a number corresponding to the image data.

16. (Original) An electro-optic element drive device according to claim 15, wherein said counter resets the count value without counting the standard clock signals corresponding to the maximum gradient.